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SUBJECT: Spatial Filter

FILE NO.:

② File

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We have completed the making of a spatial filter, under [] Task III. STAT
Several copies of the filter are enclosed.

The transmission vs. radius of these filters meet the specifications you established. It is therefore concluded that spatial filters can be made by photographic means, not only of this particular transmission vs. radius relationship, but also of nearly any desired function.

The transmission of these filters were measured with the microdensitomer using:

1. A circular scanning aperture of an effective diameter of 83 microns,
2. An objective (light collection cone) with an f number of 5.0, and
3. White light, filtered with a (red) wratten No. 25 filter (light of .6-.75 microns).

The film used to make these filters has an emulsion of a modified [] type, and therefore exhibits extremely fine-grain, resulting in very little scattering of light passing through the emulsion (i.e., the density measured specularly is very similar to that measured diffusely). STAT

The filters have two defects: images of dust particles and a central portion (about 1mm. dia.) which is slightly too light or dark. Both of these defects can be corrected and are not due to any inherent characteristics of the making-process. To eliminate these defects will require a more dust-free making-environment and a moderately precision X-Y film positioning device. Neither defects should, however, prove disturbing in your evaluation of the filters as spatial filters.

One note of caution: handle these film filters carefully since fingerprints or other marks are likely to be permanent.

Please let me know how these filters perform as spatial filters.

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FS/jf

cc: REH

Declass Review by NIMA / DoD

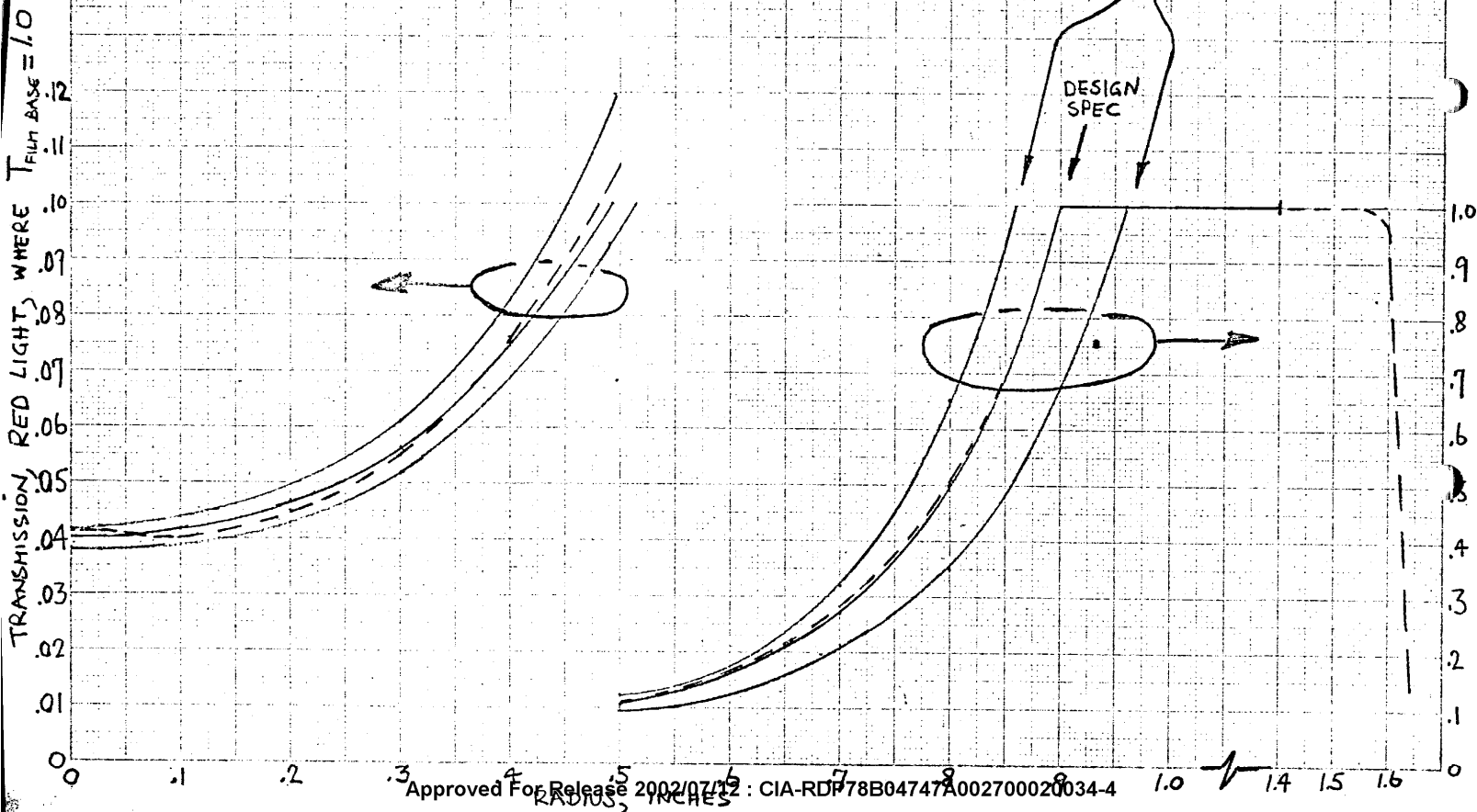
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SPATIAL FILTER (PHOTOGRAPHIC)

----- MEASURED ACTUAL

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